



Undergraduate Programme Specification

Session	2024/25	Last Modified					
Named Award Title	BSc (Hons) Environm	BSc (Hons) Environmental Science and Sustainability					
Award Title for Each	BSc (Hons) Environme	ntal Science and Sustair	nability				
Award	BSc Environmental Sc	BSc Environmental Science and Sustainability					
	Diploma in Higher Edu	cation Science					
	Certificate in Higher Ed	ducation Science					
Date of Approval	August 2023						
Details of Cohort Applies to							
Awarding Institution	University of the West of Scotland	TeachingUniversity of theInstitution(s)West of Scotland					
Language of Instructi	on & Examination	English					
Award Accredited by	Award Accredited by						
Maximum Period of R	egistration						
Duration of Study							
Full-time		Part-time					
Placement (compulsory)							
Mode of Study	Full-time						
	Part-time						
Campus	Ayr	🛛 Lanarkshire	Online / Distance				
	Dumfries London Learning						
		Paisley	Other (specify)				
School	Health and Life Scien	ces	1				
Divisional Programme Board	Biological Sciences I	Health					
Programme Leader	Kiri Rodgers						

Admissions Criteria		

Candidates must be able to satisfy the general admission requirements of the University of the West of Scotland as specified in Chapter 2 of the University Regulatory Framework together with the following programme requirements:

SQA National Qualifications:

Year 1:

Standard Entry: ABBB including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics or 114 UCAS Tariff Points Minimum Entry: BBBB including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics or 108 UCAS Tariff Points

Or GCE

YEAR 1 ENTRY

A-LEVEL: BCC including at least one of the following subjects; Biology,Human Biology Chemistry, or 104 UCAS Tariff Points

OTHERS:

Irish Leaving Certificate: H1H2H2H2 (including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics), International Baccalaureate (IB) Diploma: 24 points (including 3 subjects at HL one should be Chemistry, Biology, Human Biology, Environmental Science, Geography or physics)

GCE A-Levels: BBC (including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics) or 112 UCAS Tariff Points

International Baccalaureate (IB) Diploma: 30 points (including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics HL and another at OL) or 136 UCAS Tariff Points

Or SQA National Qualifications / Edexcel Foundation

YEAR 2

SQA HNC / BTEC Level 4 HNC: Applied Science; Biomedical Science/Applied Biomedical Science; Industrial Biotechnology or equivalent in a relevant subject area.

Other Required Qualifications/Experience

Year 1: Irish Leaving Certificate: H1H2H2H2 (including at least one of the following subjects; Biology, Human Biology, Chemistry, Environmental Science, Geography or Physics), International Baccalaureate (IB) Diploma: 24 points (including 3 subjects at HL one should be Chemistry, Biology, Human Biology, Environmental Science, Geography or physics)

Year 2: Other Required Qualifications/Experience

There is a minimum entry qualification for competence in the use of the English language of attainment in the IELTS (International English Language Testing System) with a comparable score of 6.0 or above (with a minimum of 5.5 in each component)

Further desirable skills pre-application

General Overview

The combined impacts of climate change, biodiversity loss and lack of sustainable natural resource management is resulting in serious ramifications for the future of our planet. In this course we provide students with the applied skills and knowledge required to be part of the solution.

This course uses the United Nations Sustainable Development Goals (UNSDGs), which were designed to purposely act as a blueprint to create a better and more sustainable future for everyone. With the 17 SDGs being interlinked and knowing that actions in one area will affect the outcome of others, we provide the necessary development that is required to bring harmony to social, environmental, and economic sustainability through a 'one health' approach.

You'll receive a general grounding in a variety of disciplines, including from industry experts to underpin your knowledge and understanding of core environmental systems before progressing to study more specialised and advanced topics. Specialisms include subjects focused on ecosystem function and understanding human interaction in the environment, such as aquatic ecology, pollution control and environmental impacts on public health. There will be a clear and distinct links to sustainability throughout all core environmental science modules and continuous links and exposure to industry practices.

PROGRAMME DETAILS

Subjects covered include laboratory analysis (biological and chemical), statistical methods, geographical information systems (GIS), legislative frameworks, earth systems, health and safety and microbiology. With an option to explore these concepts through fieldwork and analytical analysis (at both the Lanarkshire and Paisley Campus), we aim to ensure a core knowledge and understanding of subject-specific theories, paradigms, concepts, and principles.

Graduates will have the key attributes and transferable skills, e.g., leadership, team working, problem-solving, self-management and interpersonal relationships, for future employability, entrepreneurship, and active citizenship. Core skills include the following:

- To develop critical, analytical problem-based learning skills and the transferable skills to prepare the student for graduate employment.
- To enable the student to engage in lifelong learning, study and enquiry, and to appreciate the value of education to society.
- To assist the student to develop the skills required for both autonomous practice and team-working.
- To develop student knowledge and understanding of the principles governing the applied environmental science and sustainability sector.

• To enable the student to extend knowledge and understanding to a critical assessment of current views and developments in applied environmental science and sustainability.

• To enable the student to acquire competence in a range of practical methods.

All of the modules utilise a blend of formal lectures, workshops and practical work. Practical work includes laboratory work and field trips. As well as the option of work-related learning which includes an optional 12-week placement or one-year sandwich placement. In addition, students at all levels are supported by ASPIRE (Academic, Social and Professional skills for Innovation, Reflection and Endeavour) advisors, with E-learning enabled through the use of virtual learning environment. All modules within the programme use the VLE to support the delivery of material.

Typical Delivery Method

Any additional costs

Graduate Attributes, Employability & Personal Development Planning

Graduates in vocationally relevant employment such as the Environmental Science sector will be continuously engaging with Continuous Professional Development or Lifelong Learning activities. It is fundamental that, to engage with and profit from these activities, students embrace PDP as a central strategy and integral to their learning process from day 1. They will be supported and empowered to develop the skill of purposeful reflection which will lead into planning, for and throughout their entire educational experience. By engaging with these twin processes of reflection and planning they will develop a set of skills and attributes that will underpin their employability.

Undertaking this programme will develop a range of 'I am UWS' Graduate Attributes: Universal – development of critical thinking, ethically and research minded.

Work Ready – an effective problem solver, communicator and ambitious.

Successful - by being autonomous, resilient and driven.

Graduate Attributes

The development of UWS graduate attributes is embedded within all years of the programme. Our aim is to provide students at UWS with opportunities to develop academically, professionally and personally: to broaden their ambitions, extend their attitudes, challenge their assumptions, and assist towards unlocking their potential to succeed in their studies and future lives.

Critical Thinker The ability to evaluate yourself and your own thinking; assessing and evaluating complex information from different sources, challenging and questioning presented knowledge and facts, drawing reflective conclusions and articulating knowledge. Thinking reflectively and logically, being able to explain your thought processes, forming you own conclusions, constructing coherent arguments and taking actions based on your own thinking and relevant information.

Ethically-Minded Understanding ethical principles, awareness and appreciation of the values and beliefs of others in relation to own actions. Knowledge of moral decisions; respect for other people's beliefs and the environment; being non-judgmental.

Collaborative Ability to work with a range of people, receptive to others' views and working well with others to reach shared goals. Being a good communicator, open-minded, flexible, empathetic, a good listener, and pro-active.

Autonomous Taking responsibility for own actions to help become an independent learner. Applying learning and knowledge out with university, having confidence in self, taking responsibility for own actions and making informed decisions. Self-directed, disciplined, using initiative and being self-motivated.

Resilient The ability to weather challenges and setbacks, utilising adversity to build new skills and support others in the future. Being determined, motivated, self-confident and demonstrating will-power. Not fearing failure.

Driven Ambitious; highly motivated to achieve desired outcome; focussed. A willingness to work hard; committed to achieving objectives; highly engaged with self-determination. Pushing personal boundaries and having the confidence to gain new experience.

Problem Solver Identifying what the problems are, including both what is known and what is unknown. Showing the application of knowledge to problematic situations/issues and evaluating a range of creative options; Identifying a problem and then finding solutions. Ability to be creative and knowledgeable enough to ask the right questions and to step up to take ownership of tasks/activities.

Effective Communicator To adapt what you are communicating to a specific audience. Communicating effectively to present ideas, discuss, persuade, negotiate, debate and challenge. Possessing skills to communicate verbally and non-verbally in an engaging and articulate manner. Listening.

Ambitious Aiming to achieve. Know where you want to be, setting goals, targets and making progress to accomplish these.

In the School of Health and Life Sciences we utilise the addition of an ASPIRE (Academic, Social and Professional skills for Innovation, Reflection and Endeavour) modules where students will be supported to explore and evaluate their values, motivations, actions, and goals through reflective thinking.

Future career prospects include further education, e.g., master's or PhD, as well as an array of job opportunities such as: Environmental and Junior Environmental consultant, Consultant Ecologist, Office and Sustainability Coordinator, Environmental Scientist, Graduate Sustainability Consultant, Ecologist, Environmental Technician, or an Environmental health officer.

Work Based Learning/Placement Details

This programme contains a work-related learning component, allowing students to choose an optional module BIOL09022 Work Related Learning 20, where they can take part in a 12 week placement at an environmentally relevant industry.

The placement experience has been designed to conform with the current University Work related learning code of practice.

Students must fulfil certain criteria in order to gain a placement position, which is competitive and involves an agreement between the student, UWS and placement provider, which must be completed before the student commences the placement. They must also demonstrate good academic progress, and development of a professional attitude.

Attendance and Engagement

In line with the <u>Student Attendance and Engagement Procedure</u>, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this programme, academic engagement equates to the following:

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: <u>UWS Equality, Diversity and Human Rights Code.</u>

Furthermore, it is vital to acknowledge that as part of this course and the UNSDG's, environmental sciences are a route to justice through delivery and diverse perspectives are essential to confronting global grand challenges. To achieve this the academic programme cultivates graduates who are culturally aware, show ethical behaviour, consideration and respect and who can reflect on equality in the context of their discipline. They will also be proficient in systems thinking, flexibility, interdisciplinarity and open to different ways of thinking and practising.

Programme structures and requirements, SCQF level, term, module name and code, credits and awards (<u>Chapter 1, Regulatory Framework</u>)

Learning Outcomes

	SCQF LEVEL 7
	Learning Outcomes
	Knowledge and Understanding
A1	Demonstrate a broad awareness of the diversity of the subject area of environmental science and the nature of the main contributing areas.
A2	Demonstrate an awareness of the difference between explanations based in evidence and other forms of explanation and the importance of this difference.
A3	Understand the role of the regulatory and professional bodies in environmental science.
A4	
A5	
	Practice - Applied Knowledge and Understanding
B1	Apply knowledge in using of the basic and routine practical skills in different sciences.
B2	Apply skills and knowledge to collect and record biological/chemical and environmental data.
B3	Be able to work safely in a laboratory environment.
B4	Understand the importance of conduct, performance and ethics in meeting standards of proficiency and implications as a student and following graduation.
B5	
	Communication, ICT and Numeracy Skills
C1	Use a range of relevant computing technologies to analyse, display, and report scientific data.
C2	Present, use and manipulate numerical data to address relevant scientific scenario's.
C3	
C4	
C5	
	Generic Cognitive Skills - Problem Solving, Analysis, Evaluation
D1	Present and evaluate environmental information.
D2	
D3	
D4	
D5	
	Autonomy, Accountability and Working with Others
E1	Exercise initiative in undertaking laboratory report and other written material.
E2	Demonstrate an ability to work in a group or as part of a team.

E3	
E4	
E5	

Level 7 Modules

CORE

SCQF	Module	Module Title	Credit	Term		Footnotes	
Level	Code			1	2	3	
7	BIOL07019	Fundamentals of Life	40	\square			
7	APPD07001	Aspire	20	\square	\square		
7	BIOL07022	Chemistry for Environmental and Biosciences	20		\boxtimes		
7	BIOL07022	Diversity of life	40		\square		
Footno	Footnotes for Core Modules						

Level 7 Modules

OPTION

SCQF	Module	Module Title	Credit	Terr	n		Footnotes
Level	Code			1	2	3	
Footno	tes for Option	Modules					

Level 7

Criteria for Progression and Award

Please refer to <u>UWS Regulatory Framework</u> for related regulations

The exit award is the Certificate in Higher Education in Science, the requirements for which are 120 credits SCQF 7 or higher.

	SCQF LEVEL 8						
	Learning Outcomes						
	Knowledge and Understanding						
A1	Demonstrate a broad knowledge of the essential facts, major concepts, principles, and core theories associated with the field of environmental science and sustainability						
A2	Demonstrate a discerning understanding of ideas, concepts and facts relating to environmental sustainability						
A3	Work with relevant environmental data to be able to formulate simple hypotheses.						
A4	Demonstrate an appreciation and awareness of the legal frameworks and legislation associated with environmental health related issues.						
A5							
	Practice - Applied Knowledge and Understanding						
B1	Apply practical skills to a range of basic and routine protocols within applied environmental science and sustainability						
B2	Apply understanding through the formulation and testing of a hypotheses using scientific methods						
B3	Apply knowledge and understanding through detailed data collection in applied environmental science and sustainability & related scientific areas						
B4	Appreciate the importance of safety in both laboratory and field environments when collecting data						
B5							
	Communication, ICT and Numeracy Skills						
C1	Be able to convey complex ideas to a range of different audiences including peers and academics						
C2	Routine use of IT for the presentation and manipulation of environmental health related data.						
C3	Ability to interpret different sets of environmental data						
C4	Evaluate qualitative and quantitative data and recognize the difference between these data sets						
C5							
	Generic Cognitive Skills - Problem Solving, Analysis, Evaluation						
D1	Undertake critical evaluations and analysis of applied environmental science and sustainability data and information						
D2	Use different approaches to formulate evidence-based solutions						
D3	Give reasoned opinions, identifying flaws in arguments and discriminating between relevant and irrelevant literature.						
D4							
D5							
	Autonomy, Accountability and Working with Others						
E1	Exercise initiative in undertaking laboratory reports and other written material						

E2	Be able to work as a team and practice awareness of your own and others roles when carrying out laboratory work
E3	Development of the ability to manage time in respect of laboratory practical work.
E4	Be able to deal with ethical issues associated with aspects of applied environmental science and sustainability
E5	Manage, under guidance, ethical and professional issues in accordance with current professional and/or ethical codes or practices

Level 8 Modules

CORE

SCQF	Module	Module Title	Credit	Term		Footnotes	
Level	Code			1	2	3	
8	BIOL08028	Earth Systems	20	\boxtimes	\square		
8	BIOL08029	Fundamentals of Environmental Science	20				
Footno	Footnotes for Core Modules						

Level 8 Modules

OPTION

SCQF	Module	Module Title	Credit	Terr	n		Footnotes
Level	Code			1	2	3	
8	BIOL08002	Practical Skills in Biomed. and Env. Health	20				
8	CEWM08006	Legislative Framework	20	\square			
8	BIOL08025	Man and the Global Biosphere	20		\square		
8	BIOL08004	Introductory Microbiology	20		\square		
8	CEWM08008	Environmental Protection	20		\square		
Footno	Footnotes for Option Modules						

Level 8

Criteria for Progression and Award

Please refer to <u>UWS Regulatory Framework</u> for related regulations

The exit award is the Diploma in Higher Education in Science the requirements for which are 240 credits with at least 90 credits being at SCQF 8 or higher. An award with distinction will be made in accordance with University regulations.

	SCQF LEVEL 9						
	Learning Outcomes (Maximum of 5 per heading)						
	Knowledge and Understanding						
A1	Demonstrate a broad and integrated knowledge of ideas, concepts and facts relating to applied environmental science and sustainability in a diversity of situations including public health, pollution control, sustainability, monitoring and the built environment.						
A2	Demonstrate an appreciation and awareness of the legal frameworks and legislation associated with applied environmental science and sustainability related issues.						
A3	Combining safety standards, knowledge, theories and principles in novel ways in the analysis of complex and substantial problems and situations, objectively analysing these from a range of different viewpoints and theoretical standpoints to achieve successful outcomes while gaining knowledge of qualities and attributes of relevant industries and environments.						
A4	Demonstrate a critical understanding of ideas, concepts and facts relating to selected areas of environmental science. Situations ranging from the basic to the complex, in a variety of geochemical and ecological systems.						
A5	Be able to formulate and to test hypotheses as they relate to applied environmental science and sustainability knowledge, including main areas and boundaries.						
	Practice - Applied Knowledge and Understanding						
B1	Applying knowledge and understanding to use a range of practical and specialized skills in applied environmental science and sustainability practical situations - both laboratory and workplace scenarios						
B2	Applying understanding and knowledge to show an ability to interpret theoretical and practical evidence linked to regulatory standards.						
B3	Apply academic/technical knowledge in relation to practical, political, and legal situations required for action to be taken in relation to sustainable practices using a one health approach.						
B4	Apply knowledge and understanding of the importance of safety and develop skills required to carry out a suitable and sufficient risk assessments.						
B5							
	Communication, ICT and Numeracy Skills						
C1	Convey clearly and concisely, both orally and in writing, formally and informally key concepts of applied environmental science and sustainability.						
C2	Using a range of ICT applications to organise and present information in an accessible and understandable form.						
C3	Use relevant specialised computing technologies to analyse, display, and report applied environmental science and sustainability data.						
C4	Be able to convey complex ideas to a range of different audiences including peers and academics						
C5	Ability to interpret complex sets of applied environmental science and sustainability data						
	Generic Cognitive Skills - Problem Solving, Analysis, Evaluation						
D1	Critically evaluate and synthesize applied environmental science and sustainability information						

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D2	Use a range of approaches to formulate and critically evaluate evidence-based solutions to environmental problems and reflect on the validity and appropriateness.
D3	Applying underpinning knowledge of law, including the standard/quality of environmental pollutants, gather appropriate data to make judgements of safety and mitigation strategies.
D4	Present and evaluate applied environmental science and sustainability information.
D5	
	Autonomy, Accountability and Working with Others
E1	Exercise managerial responsibility for the work of others when undertaking group project work
E2	Working autonomously over significant and critical academic and practical tasks, accepting ownership and accountability for both the process and outcomes
E3	Recognise the importance of Continuous Professional Development to extend knowledge and competence.
E4	Working and interacting, as part of a team, with individuals and groups from a variety of professional and vocational settings, developing the confidence and self-awareness to influence and, where appropriate lead, such groups.
E5	

Level 9 Modules

CORE

SCQF	Module	Module Title	Credit	Term			Footnotes
Level	Code			1	2	3	
9	BIOL09039	Introduction to GIS + Monitoringx	20	\boxtimes	\boxtimes		
9	BIOL09038	Environmental pollutants and health risk	20		\boxtimes		
Footno	Footnotes for Core Modules						

Level 9 Modules

OPTION

SCQF	Module	Module Title	Credit	Term			Footnotes
Level	Code			1	2	3	
9	BIOL09013	Entomology & Parasitology	20	\square			
9	BIOL09010	Biological Conservation	20	\square			
9	SOCY09057	Envir Damage, policy and justice	20		\boxtimes		
9	BIOL09037	Wildlife Biology	20		\boxtimes		

9	BIOL09035	Field biology	20	\square	
9	CEWM09004	Environmental Responsibilities	20	\square	
9	BIOL09022	Work related learning	20	\square	
Footno	tes for Option M	1odules			

Level 9 Criteria for Progression and Award Please refer to <u>UWS Regulatory Framework</u> for related regulations

	SCQF LEVEL 10					
	Learning Outcomes (Maximum of 5 per heading)					
	Knowledge and Understanding					
A1	Demonstrate knowledge and understanding of the ways in which environmental science and sustainability is developed, including a range of established techniques of enquiry or research methodologies.					
A2	Demonstrate detailed knowledge of the applicability of training in applied environmental science and sustainability to career development.					
A3	Demonstrate a critical understanding of key principles, theories, and concepts within applied environmental science and sustainability and the applications of these.					
A4	Demonstrate a critical understanding of principles, theories, and concepts to develop specific sector specific hypotheses for research.					
A5						
	Practice - Applied Knowledge and Understanding					
B1	Apply knowledge and understanding to use a wide range of practical and specialized skills in applied environmental science and sustainability related situations					
B2	Execute a defined research project. Be able to accurately collect and record specific data as it relates to applied environmental science and sustainability					
B 3	Undertake a risk assessment and costing as it relates to a research project					
B4	In using a wide range of the principal professional skills, techniques, practices, be able to conceptualise and analyse complex professional problems within environmental sciences.					
B5	Present information clearly, accurately and in a professional manner as well as being able to identify and retrieve scientific information					
	Communication, ICT and Numeracy Skills					
C1	Be able to convey complex ideas and to make formal presentations on applied environmental science and sustainability to a wide range of audiences					
C2	Be able to use different statistical packages to analyse, manipulate and present data sets that are relevant to different sectors within applied environmental science and sustainability					

C3	Display an understanding of preparation for presentations on environmental health
	issues and the ability to plan for and communicate in any given situation.
C4	
C5	
	Generic Cognitive Skills - Problem Solving, Analysis, Evaluation
D1	Be able to identify industry specific problems and issues to offer professional insights and interpretations in the field of applied environmental science and sustainability.
D2	Critically identify, define, and conceptualize issues within applied environmental science and sustainability and the applications of its discipline.
D3	Be able to review and consolidate knowledge and to make judgments where the information available is limited.
D4	
D5	
	Autonomy, Accountability and Working with Others
E1	Exercise substantial initiative in undertaking honours research project
E2	Evidence of the development of independent research work and associated management of time
E3	Exercise autonomy and initiative during the project work.
E4	Be able to deal with complex ethical issues in applied environmental science and sustainability.
E5	

Level 10 Modules

CORE

SCQF	Module	Module Title	Credit	Term			Footnotes
Level	Code			1	2	3	
10	CEWM10004	Safety, Health, Environment Honours Project	40				
10	BIOL10030	Global Climate change drivers	20	\square			
10	BIOL10031	Sustainability and circular economy	20				
Footno	tes for Core Mo	dules			<u>.</u>	<u>.</u>	

Level 10 Modules

OPTION

SCQF	Module	Module Title	Credit	Term			Footnotes
Level	Code			1	2	3	

10	BIOL10004	Applied Aquatic Ecology	20	\square		
10	BIOL10025	Food and Environmental Microbiology	20			
10	SOCY10017	Making Sustainable Cities	20	\square		
10	CEWM10001	Control of Pollution	20		\square	
10	BIOL10002	Public Health Microbiology	20		\square	
10	BIOL10029	Advanced GIS & Remote sensing	20			
Footno	tes for Option M	1odules				

Level 10 Criteria for Award *Please refer to <u>UWS Regulatory Framework</u> for related regulations*

Regulations of Assessment

Candidates will be bound by the general assessment regulations of the University as specified in the <u>University Regulatory Framework</u>.

An overview of the assessment details is provided in the Student Handbook and the assessment criteria for each module is provided in the module descriptor which forms part of the module pack issued to students. For further details on assessment please refer to Chapter 3 of the Regulatory Framework.

To qualify for an award of the University, students must complete all the programme requirements and must meet the credit minima detailed in Chapter 1 of the Regulatory Framework.

Combined Studies

There may be instances where a student has been unsuccessful in meeting the award criteria for the named award and for other more generic named awards existing within the School. Provided that they have met the credit requirements in line with the SCQF credit minima (please see Regulation 1.21), they will be eligible for a Combined Studies award (please see Regulation 1.61).

For students studying BA, BAcc, or BD awards the award will be BA Combined Studies.

For students studying BEng or BSc awards, the award will be BSc Combined Studies.

Version no: 1

Change/Version Control

What	When	Who